

# Sierra Cricket Model 5300 Wood Heater Insert Manual Installation & Operating Instructions

**Please read this entire manual before installation. Save these instructions.**



## **GENERAL INFORMATION**

We wish to welcome you as a new owner of a SIERRA Woodstove. You join many thousands of happy owners who have been heating with SIERRA stoves since 1972. SIERRA stoves have changed a great deal during that time, and all of our knowledge and experience have culminated in this stove, the SIERRA CRICKET Model 5300. Please read this entire manual before you install and use your new room heater, especially if you have owned another woodstove in the past. We at SIERRA wish you many happy years of warmth and comfort.

Designed with you, the consumer, in mind, your SIERRA 5300 provides the versatility of five possible installation applications, including both masonry and zero clearance fireplaces, freestanding with optional pedestal, corner or alcove placement, and mobile home approval.

Its optional jacket and blower package insures good clearances to combustibles, and extremely clean glass and the ability to meet the most stringent clean air requirements with catalytics insures ease of maintenance.

**THIS UNIT APPROVED FOR MOBILE HOMES**

**FAILURE TO FOLLOW THESE INSTRUCTIONS MAY  
RESULT IN PROPERTY DAMAGE, BODILY INJURY,  
OR EVEN DEATH.**

This manual describes the installation, operation and maintenance of the SIERRA CRICKET model number 5300 non-catalytic wood heater.

Your SIERRA generates a lot of heat, so treat it with care. Read this manual thoroughly before installing and operating your stove.

### **SAFETY NOTICE**

If this appliance is not properly installed, a house fire may result. For your safety, follow the installation instructions. Check with local building or fire officials about restrictions and installation inspection requirements in your area.

It is best to have a professional install your Sierra Stove. If you prefer to install it yourself (see Installation Instructions), be sure to obtain the proper permits. Have the local building officials inspect the stove and chimney pipe for safety and code compliance after the installation is complete.

#### **SAFETY NOTICES**

- ▶ **CAUTION: HOT WHILE IN OPERATION. KEEP CHILDREN, CLOTHING AND FURNITURE AWAY. CONTACT MAY CAUSE SKIN BURNS.**
- ▶ **IF THIS HEATER IS NOT PROPERLY INSTALLED, A HOUSE FIRE MAY RESULT.**
- ▶ **CONTACT LOCAL BUILDING OFFICIALS ABOUT RESTRICTIONS AND INSTALLATION INSPECTION REQUIREMENTS IN YOUR AREA.**
- ▶ **FAILURE TO COMPLY WITH OWNERS' MANUAL INSTRUCTIONS WILL VOID YOUR WARRANTY!**
- ▶ **DO NOT USE CHEMICALS OR FLUIDS TO START OR "FRESHEN UP" THE FIRE!**
- ▶ **DO NOT BURN GARBAGE OR FLAMMABLE FLUIDS.**

**DO NOT CONNECT TO ANY AIR DISTRIBUTION DUCT OR SYSTEM.**

**DO NOT CONNECT THIS APPLIANCE TO A CHIMNEY FLUE SERVING ANOTHER APPLIANCE.**

**WARNING: DO NOT INSTALL IN SLEEPING ROOM IF THE UNIT IS IN A MOBILE HOME.**

**CAUTION: IN A MOBILE HOME INSTALLATION, THE STRUCTURAL INTEGRITY OF THE MOBILE HOME FLOOR, WALL, AND CEILING/ROOF MUST BE MAINTAINED.**

**YOUR SIERRA CRICKET 5300 HAS BEEN TESTED BY WARNOCK-HERSEY LABORATORIES TO ANSI/UL STANDARD 1482, UL 737.**

**PLEASE LEAVE THIS MANUAL WITH THE OWNER !!**

Listed by Warnock Hersey



**CAUTION: IN A MOBILE HOME INSTALLATION, THE STRUCTURAL INTEGRITY OF THE MOBILE HOME FLOOR, WALL, AND CEILING/ROOF MUST BE MAINTAINED.**

**DO NOT USE MORE THAN ONE STOVE TO A CHIMNEY. DO NOT USE A FLUE INTENDED FOR A GAS APPLIANCE.**

- The Cricket is approved for use in specified zero clearance (ZCF's). Use the list on Page 6 or contact your dealer for additional units.
- A factory-built pre-fabricated chimney may be used for your SIERRA when installed in compliance with the manufacturer's specifications and uniform building code.
- Your chimney must be properly sized. A chimney that is too small or large in diameter, or too short can cause your stove to spill smoke when the door is opened.
- Have your existing chimney inspected before attaching the cricket to it. Some chimney must be relined or replaced before they are safe to use.

- This room heater must be connected to
  - a chimney complying with the requirements for type H chimneys in the standard for chimneys, factory-built, residential type and building heating appliance, IL 103 or
  - a code-approved masonry chimney with a flue line.
- Install and operate this SIERRA unit according to instructions provided in this manual. Local building codes may apply; therefore, contact your local building inspector or fire marshal for necessary installation requirement and permits which may go beyond these instructions.

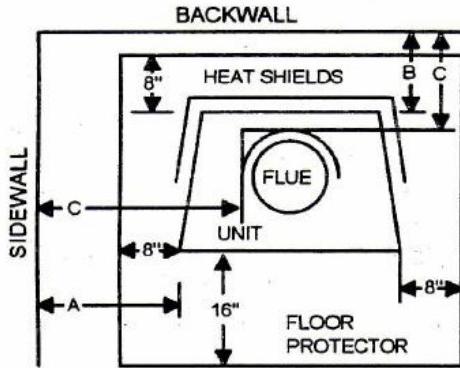


W/N 03681

## CAUTION: HOT WHILE IN OPERATION. DO NOT TOUCH. KEEP CHILDREN, CLOTHING, AND FURNITURE AWAY. CONTACT MAY CAUSE SKIN BURNS.

SEE NAMEPLATE AND INSTRUCTIONS.

DO NOT REMOVE OR COVER THIS LABEL



### PREVENT HOUSE FIRES.

INSTALL & USE ONLY IN ACCORDANCE WITH THE MANUFACTURE'S INSTALLATION AND OPERATION INSTRUCTIONS. CONTACT LOCAL BUILDING OR FIRE OFFICIALS ABOUT RESTRICTIONS AND INSTALLATION INSPECTION IN YOUR AREA. RISK OF SMOKE AND FLAME SPILLAGE, OPERATE WITH DOORS CLOSED ONLY.

**DO NOT CONNECT THIS UNIT TO A CHIMNEY FLUE SERVING ANOTHER APPLIANCE.**

BLOWER 115 VOLTS, 1.1 AMPS, 60 HZ, 1/70 HP FOR USE WITH SOLID WOOD FUEL ONLY, 6" CHIMNEY CONNECTOR.

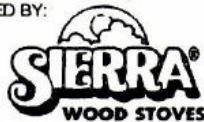
### 5300 INSERT IN MARCO FIREPLACE

MINIMUM CLEARANCE TO COMBUSTIBLES.

SIDEWALL TO UNIT	24"
UNIT TO HEAT SHIELDED MANTLE	30"
U.S. ENVIRONMENTAL PROTECTION AGENCY	

UNIT MUST BE PLACED ON A FLOOR PROTECTOR OF 3/8" NON-COMBUSTIBLE MILLBOARD OR EQUIVALENT EXTENDING 16" IN FRONT AND 8" ON BOTH SIDES. DO NOT OVERFIRE - IF HEATER OR CHIMNEY CONNECTOR GLOWS, YOU ARE OVERFIRING. INSPECT AND CLEAN CHIMNEY FREQUENTLY. UNDER CERTAIN CONDITIONS OF USE, CREOSOTE BUILD-UP MAY OCCUR RAPIDLY. CERTIFIED UNDER 40 CFR 60.530 (C) APPROVED FOR SALE AFTER JULY 1, 1992

MANUFACTURED BY:



Manufactured by Sierra Products, Inc.

5061 Brooks Street  
Montclair, CA 91763

LISTED SOLID FUEL ROOM HEATER  
MODEL: 5300  
FOR USE IN RESIDENTIAL AND MOBILE HOME  
INSTALLATIONS  
FREE STANDING STOVE: TESTED TO UL 1482  
INSERT: TESTED TO UL 127  
APRIL, 1989

WHI-

### STOVE CLEARANCES TO COMBUSTIBLES

SHIELDED UNIT & FLUE

& MOBILE HOME

UNSHIELDED UNIT

STOVE TO SIDEWALL	A	10"	24"
STOVE TO BACKWALL	B	10"	26"
FLUE TO SIDEWALL	C	19"	33"
FLUE TO BACKWALL	D	11"	27"

UNIT MUST BE PLACED ON A FLOOR PROTECTOR OF 3/8" NON-COMBUSTIBLE MILLBOARD OR EQUIVALENT, EXTENDING 16" IN FRONT & 8" TO THE SIDES & BACK OF THE UNIT. UNDER THE CHIMNEY CONNECTOR AND 2 INCHES (50mm) BEYOND EACH SIDE. USE CLASS "A" CHIMNEY & CLASS "A" CHIMNEY CONNECTOR, OR EQUIVALENT. FOR MOBILE HOMES, USE DURAVENT CLASS "A" CHIMNEY AND DOUBLE WALL CHIMNEY CONNECTOR OR PRO-JET CLASS "A" CHIMNEY AND DOUBLE WALL CHIMNEY CONNECTOR. USE ONLY A LINED MASONRY OR LISTED TYPED HT FACTORY-BUILT CHIMNEY. USE 24 GA BLACK CHIMNEY CONNECTOR.  
REFER TO LOCAL BUILDING CODE & MANUFACTURER'S INSTRUCTIONS FOR PRECAUTIONS REQUIRED FOR PASSING A CHIMNEY OR CHIMNEY CONNECTOR THROUGH A COMBUSTIBLE WALL OR CEILING. DO NOT USE GRATE OR ELEVATE FIRE - BUILD WOOD FIRE DIRECTLY ON HEARTH. THIS UNIT IS APPROVED TO WORK WITH A BLOWER ASSEMBLY PART# 10231 INSTALLED BY THE FACTORY OR IT'S APPROVED REPRESENTATIVES.



## INSTALLATION INSTRUCTIONS

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This manual describes the installation, operation, and maintenance of the SIERRA Cricket Model 5300 non-catalytic wood heater. This heater is certified to comply with July 1992 EPA Standards. Under specific test conditions, this heater has been shown to deliver the heat at the following rates:

5300 from 11,000 to 36,400 BTU/hr.

**DO NOT OVERFIRE THIS HEATER.** Attempts to achieve heat output that exceeds the heater design can result in permanent damage to the heater and to the catalytic combustor. Do not exceed surface temperatures of 800 degrees F. Do not burn with the ash pan open. Over firing can also void the manufacturer's warranty.

### I. TECHNOLOGY

Your 5300 Cricket is a non-catalytic unit designed to meet the most stringent emission standards without the use of a catalytic combustor. This effect is achieved through the use of a secondary air which is mixed with the primary air in the unit's firebox.

The primary air, which is controlled by the user, burns the wood. Secondary air is admitted into the firebox through the secondary air tubes at the top of the firebox. This secondary air burns the impurities in the smoke released from the initial wood burning. The temperature necessary for this combustion is maintained through the firebrick refractory and the heavily insulated box.

### General Information

The following items are shipped inside the Ambassador:

- This manual
- Sierra Warranty

### BASIC FIREPLACE AND CHIMNEY REQUIREMENTS

A Sierra woodstove may be installed using an all masonry fireplace build in accordance with the Uniform Building Code.

The first step in this type of installation is to determine the acceptability of the fireplace and chimney for use with a woodstove. Both the construction and condition of the fireplace are important considerations when installing a wood stove. Do not install this stove in a poorly constructed fireplace or chimney.

The following are general guidelines for a safe installation and are based on recommendations of the National Fire Protection Association (NFPA). Contact your local building code agency or fire safety inspector for specific details. Local codes may vary by area.

1. The chimney should have a fire clay liner in good condition. Loose or cracked liner sections can be hazardous. If the chimney does not have a liner, one can be installed by a qualified professional. Some metal liners are acceptable to use. Check with your stove dealer or local building code agency for acceptability of these liners.
2. No part of the chimney should have any leaks, missing masonry, cracks, loose mortar or soft mortar.
3. There should be no mortar or parts of the chimney blocking the chimney flue.
4. The fireplace and chimney should be built on a solid concrete footing supported by the ground and not attached to the house. Older chimneys are sometimes supported by the framework of the building itself. These can be structurally unsound due to settling and shifting of the building and possible cracking of the chimney itself.
5. The chimney must have a good natural draft and should be self-starting. A chimney that has poor draft and is subject to draft reversal should be repaired or replaced before using..
6. The chimney should be the proper size. Some fireplace chimneys are quite large and will cause poor stove performance and excessive creosote. The rule of thumb is that the chimney flue should be roughly no more than three times the flue opening on the stove. A 6 inch stove flue will work in an 8 inch by 12 inch fireplace flue. It may be necessary to install another liner in an oversized chimney.
7. The chimney should extend at least 3 feet above the roof and at least 2 feet above any point on the roof within 10 feet.
8. This stove must be used alone in the chimney. Any unused opening must be permanently sealed with masonry by a skilled brick mason. A clip-in type flue liner is not acceptable for this use because of the possibility of it coming loose during a chimney fire and possibly causing the fire to spread.  
Your local building code agency or fire safety inspector can refer you to a qualified professional who can inspect the chimney for you.
9. When installing, make sure the chimney can be removed to a point lower than the highest point of the roof for future transportation of the mobile home.

*Remember to have your chimney inspected for leaks and blockage before you install your stove.*

### Draft Requirements

Draft is the force which moves air from the appliance up through the chimney. The amount of draft in your chimney depends on the size, height and general condition of your chimney, local geography, nearby obstructions, and other factors. Inadequate draft will cause the appliance to leak smoke into the room when starting a fire or adding fuel to the existing fire. Excessive draft, on the other hand, may cause excessive temperatures in the appliance, burning the wood too quickly and damaging the unit.

#### Minimum Chimney Requirements

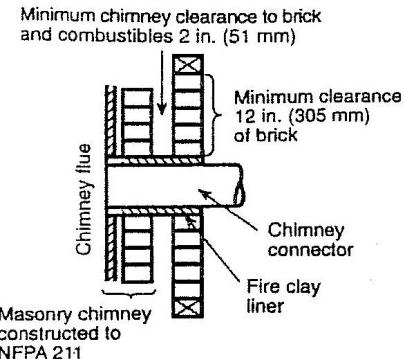
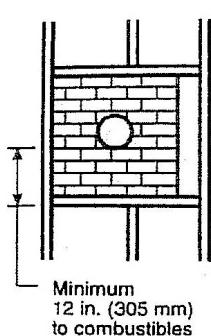
Size	Height	Draft
6 x 6	15 ft	.06 W.C.

Note: 9 out of 10 times, dirty glass, lack of "heating", or failure to continue burning after the door are shut is evidence of inadequate draft.

In all cases, if you experience anything unusual with your Evolution, your Sierra dealer is the local expert on local conditions, and you need to contact him or her.

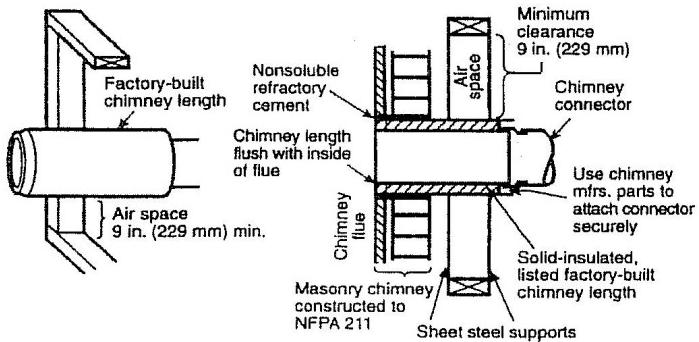
**Your Sierra dealer is ALWAYS your best source of information on local codes and requirements**

#### CHIMNEY CONNECTOR SYSTEMS AND CLEARANCES FROM COMBUSTIBLE WALLS FOR RESIDENTIAL HEATING APPLIANCES



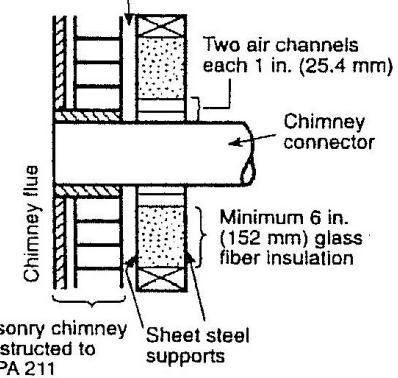
- A. Minimum 3.5 inch thick brick masonry all framed into combustible wall with a minimum of 12 inch brick separation from clay liner to combustibles. The fireclay liner shall run from the outer surface of brick wall to, but not beyond, the inner surface of chimney flue liner and shall be firmly cemented in place.

Minimum chimney clearance from masonry to sheet steel supports and combustibles 2 in. (51 mm)

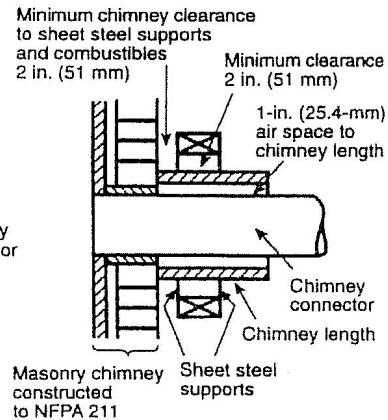
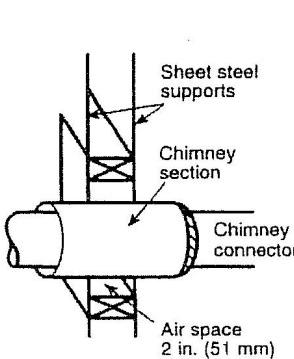


- B. Solid-insulated, listed factory-build chimney length of the same inside diameter as the chimney connector and having 1 inch or more of insulation with a minimum 9 inch air space between the outer wall of the chimney length and combustibles.

Minimum chimney clearance to sheet steel supports and combustibles 2 in. (51 mm)

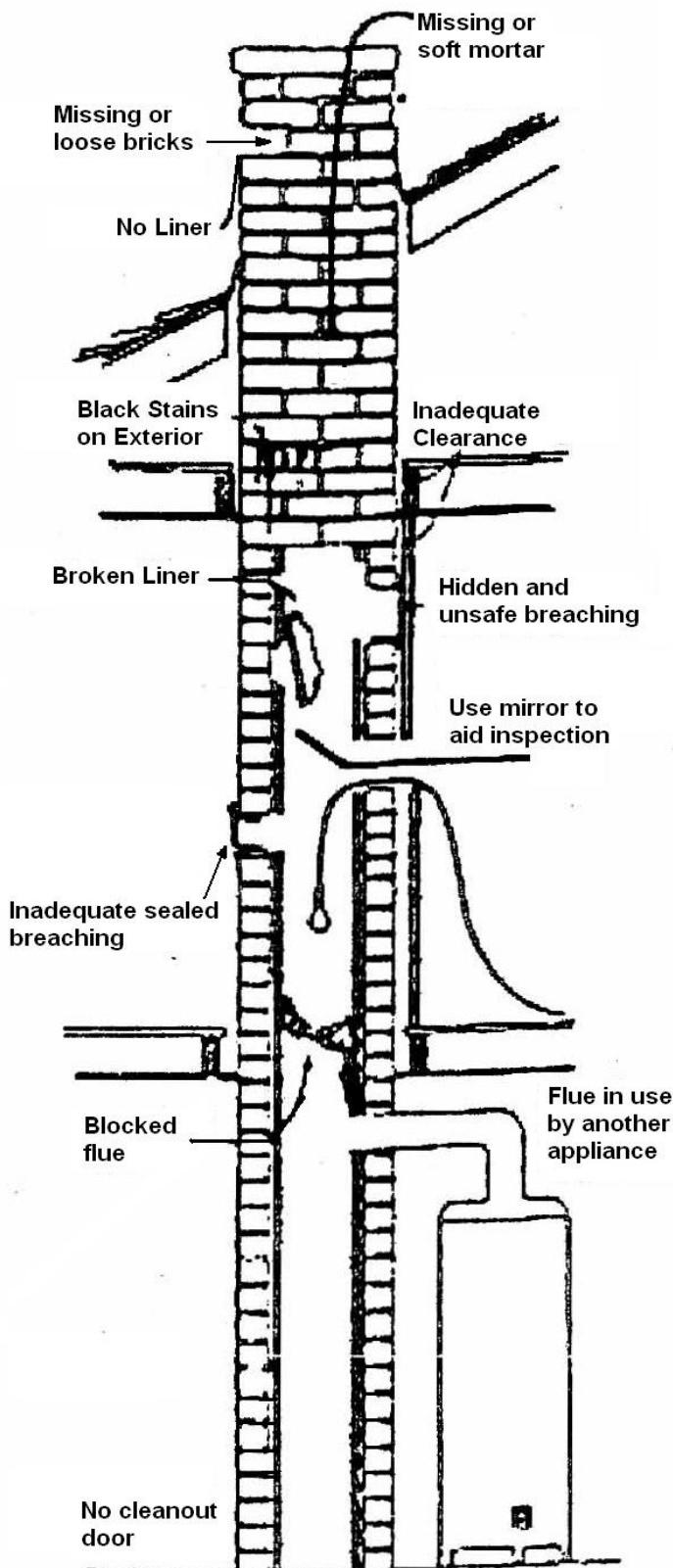


- C. Sheet steel chimney connector, minimum 24 gauge thickness, with a ventilated thimble, minimum 24 gauge in thickness, having two 1 inch air channels, separated from combustibles by a minimum of 6 inch of glass fiber insulation. Opening shall be covered, and thimble supported with a sheet steel support, minimum 24 gauge in thickness.

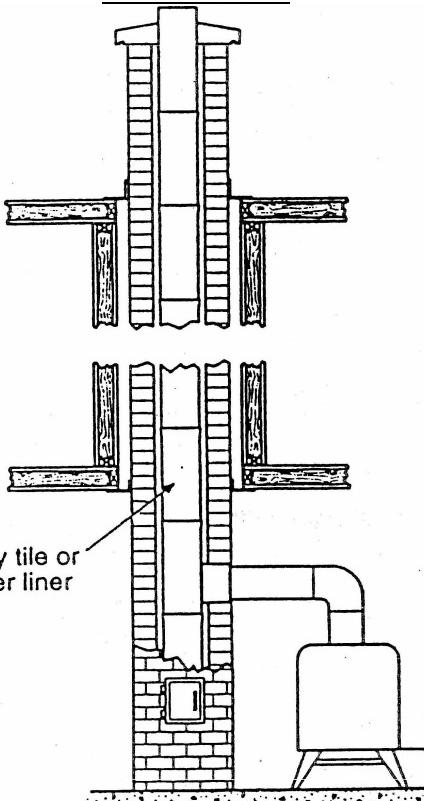


- D. Solid insulated, listed factory-build chimney length with an inside diameter 2 inch larger than the chimney connector and having 1 inch or more of insulation, serving as a pass-thru for a single wall sheet steel chimney connector of minimum 24 gauge thickness, with a minimum 2 inch air space between the outer wall of chimney section and combustibles. Minimum length of chimney section shall be 12 inch chimney section spaced 1 inch away from connector using sheet steel support plates on both ends of chimney section. Opening shall be covered, and chimney section supported on both sides with sheet steel supports securely fastened to wall surfaces of minimum 24 gauge thickness. Fasteners used to secure chimney section shall not penetrate chimney flue liner

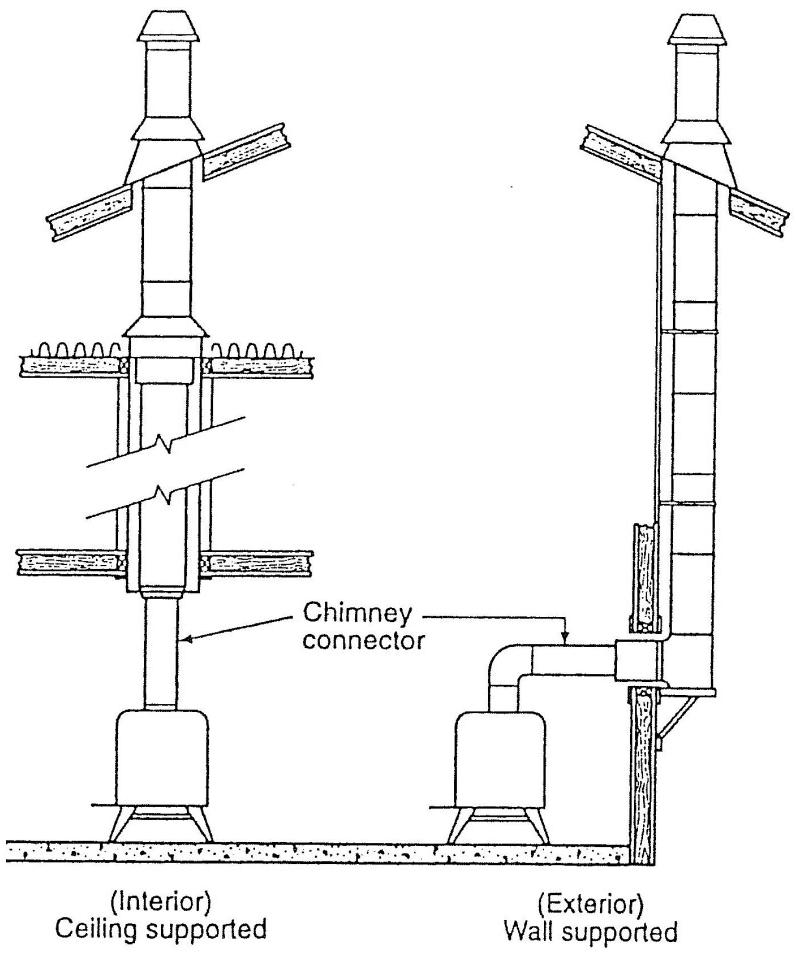
# Chimney Requirements



## Typical Factory Built or Masonry Chimney Installations



Masonry chimney



Your local building code agency or fire safety inspector can refer you to a qualified professional who can inspect the chimney for you.

**WARNING-DO NOT INSTALL OR USE A CRICKET IN AN INSTALLATION WHERE THERE HAS PREVIOUSLY BEEN A CHIMNEY FIRE WITHOUT FIRST HAVING AN INSPECTION BY A CERTIFIED CHIMNEY SWEEP.**

## II. FIREPLACE INSERT INSTALLATION

### A. Installation into a Factory-Built Fireplace

Your Cricket has been tested by Warnoch-Hersey International for installation in the following SPECIFIED zero clearance fireplaces (ZCF) which are furnished with an 8" minimum listed chimney system. The Cricket must be installed in a ZCF with the rear manifold and blower option.

**Heatilator** Models 3036, 3038, 3130, 3138, 3336R, 3336L, 3042, 3048, 3342R, 3342L, HE36BG, HE42B, HE28B, TD36A, TD36B, TD42B, TD46BI, HF42A, HF36A, Mark 123, HB36, AM, NA42-A1

**Majestic** Models M28, M36, M36AO, M42, L-36, L-36B, L-42, L-42R, L-42L, L-42B, MD-36, MD36AO, MD-36R, MD-36L, M.H.C.36, MBUC36, MBUC42, MRC36, RC36, WMII-36, WMII-42, MFC-36, MEC-36A, MEC-36F, MECB-36, MBC-36A, MB-42, MBU-36, MD-42, MD-42AO, MHC-28, MHC-42

**Marco** Models 36-X, 36-1X, 36N-X, 36NI-X, DWF-36CF, DWF-36GO-X, DWF-36C, DWF/DF41-D, DWF/DF41-F, DWF/DF41-GO, DWF-36DR, FR, FL, DL, -3, DWF-31D, DWF-31GO, DWF-36ST, 036, B41-HC

**Preway** Models DW36, DW36A, DL36DW, DW42, FF42, DL42DW, BE48, PB48, FF48, BE41, FF41, BE41ST, B142D, FF36, B136SEM, DL360A5, BE41SEM, B136D-3M, B136D, DL36DOA, PB4250, DL36D, SL36PB

**Martin** Models BC3642, BC3642M, BB3642, BB3642C, A39, AC39, A33, AC33, A/AC36, A42, AC42, DBB36, DBC36, BW36B, BW42B, B-36, C-36, C-36M, DBB361, DBC361, M42, M36, BB4250, BB4250C, BC4250, BW4245A, LF36B

**Superior** Models SP38C-1, RD-3300, RD-3800, RD-4300, RC-3310, RC-3310, PC-3310, PC-3810, RC-4310, HC 3320, HC-3820, HC-4320, HCE-3550, HCE-4050, HCE-4550, CF-3860, and Hearthstar Fireplace 33A, 33B, 38A, 38B, 43A, 43B, 35B-N, 38H, 40B-N, 45B-N, 3800 Series

**Temco** Models 36-5, TBF42-2RSA, EE36-1

Your ZCF must be sound and in good operating condition. The chimney should be cleaned before installation if necessary. Inspection by a local building official, fire marshal, certified chimney sweep, or other qualified personnel is recommended.

Your ZCF MUST have been installed in accordance with the manufacturer's specifications and to all local building codes.

### Installation:

1. Check your fireplace dimensions - 25" wide in front, 20" wide in back, 18" deep and 19" high. (See figure 1)
2. The fireplace's ash lip, smoke shelf, smoke baffle, and firebrick may be removed if necessary. The damper must be removed.
3. Check proper clearance to combustibles as shown in Figures 2 and 3.

### MINIMUM CLEARANCE TO COMBUSTIBLES:

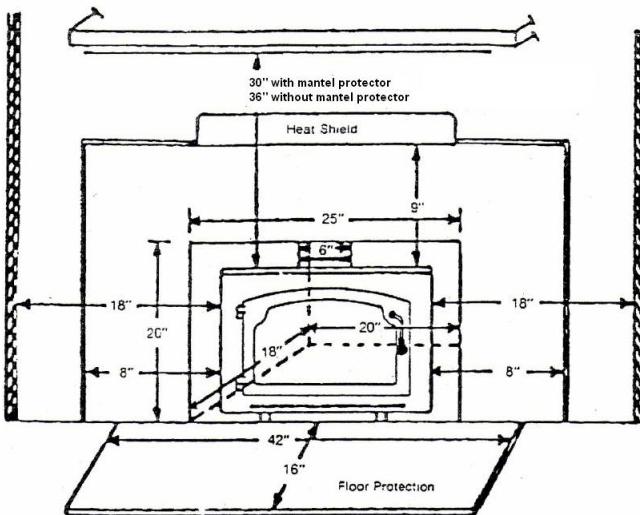


FIGURE 1  
MINIMUM CLEARANCE TO COMBUSTIBLES

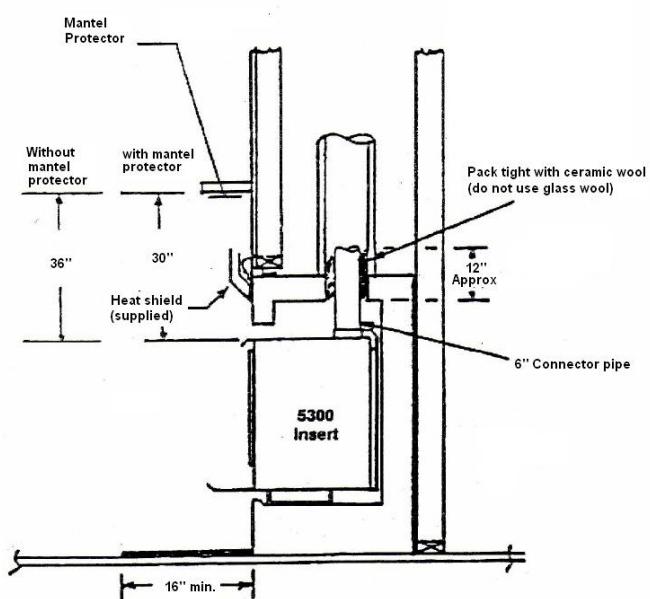


Figure 2

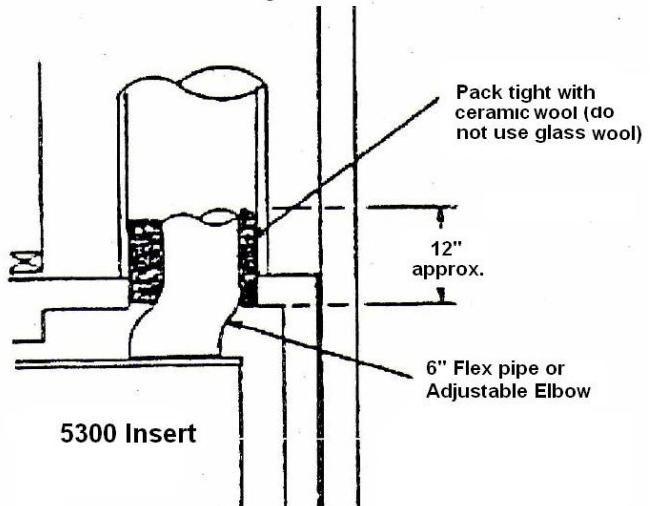


Figure 3

- Install the provided heat shield on the upper face of the fireplace as shown in Figure 1. While holding shield in place on the face of the ZCF, make a mark through the screw holes in the shield. Using a 3/16" bit, drill holes in the face of the ZCF. After the shield has been attached with the screws provided, use the large plug buttons to close the 1" holes in the face of the shield.
- Remove the damper and damper rod assembly from the fireplace. Note: Any parts removed should be stored in the fireplace or given to the homeowner for re-installation if and when the stove is removed.

- The Cricket must be directly connected to the chimney of the ZCF. There are two acceptable methods of direct connecting.

- Using an increaser that goes from 6" to the exact diameter of your chimney. The increaser must be made of 24 gauge (minimum.) When installed, the increaser must be sealed with refractory cement where the connection is made to the chimney. Standard 6" x 24 gauge stove pipe may be used to connect the increaser to the stove. In small fireplaces where there is not much room to maneuver the stove pipe, you may want to use a 6" slip join connector on the bottom of the pipe. The bottom of the pipe must be secured to the flue collar of stove with three metal screws.

**b. Ceramic Wool Method**

Wrap the top of a section of 6 x 24 gauge stovepipe with ceramic wool (available from your dealer.) Insert the wrapped pipe into the fireplace chimney and use more ceramic to tightly pack the space between the outside of the stovepipe and the inside of the fireplace chimney. The stovepipe should extend into the fireplace chimney at least 18".

**DO NOT USE GLASS OR FIBERGLASS AS IT WILL MELT DUE TO EXTREME HEAT.**

- Adjust the stove pipe to approximately the height of the flue collar.
- Slide the unit into the fireplace and center the flue collar under the stove pipe.
- Slide the stove pipe or slip joint into the flue collar as far as possible.

**DO NOT BREAK THE SEAL OF THE REFRACTORY CEMENT OR LOOSEN THE CERAMIC WOOL.**

- Install at least three metal screws into the pipe through the flue collar.
- Place an approved floor protector of proper size (See Figure 4) in front of hearth.
- Install a mantel protector if required(See figures 1 & 2)

Your installation is now complete. Read the operation section of this manual before using the stove.

Note: Each fireplace and installation may be different.

- 6" flexible pipe may be used in place of standard stove pipe. (See figure 3)
- You may use a flexible stove pipe elbow (See Figure 3)
- Always install your pipe with the crimped end down so that the hot creosote will drain into the stove to be burned.

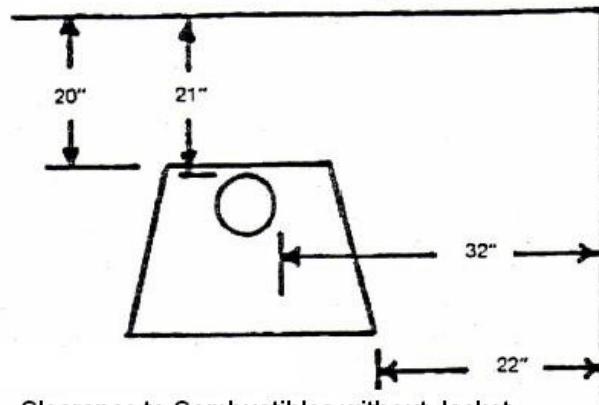
**B. Installation into a Masonry Fireplace.**

A SIERRA woodstove may be installed using an all masonry fireplace built in accordance with the Uniform Building Code. The first step in this type of installation

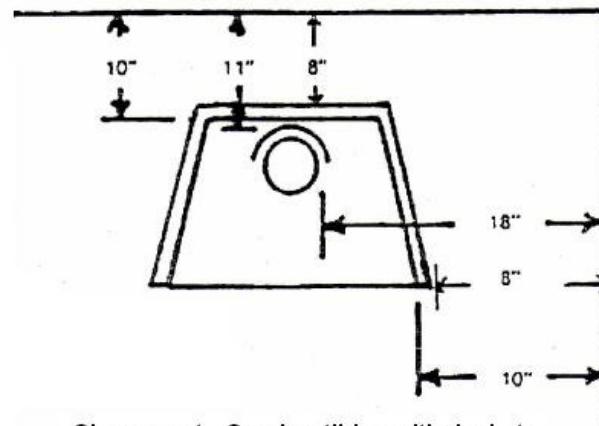
is to determine the acceptability of the fireplace and chimney for use with a woodstove. Both the construction and condition of the fireplace are important considerations when installing a woodstove. Do not install this stove in a poorly constructed fireplace or chimney.

The following are general guidelines for safe installation and are recommendations of the National Fire Protection Association (NFPA). Contact your local building code agency or fire safety inspector for special details. Local codes may vary by area.

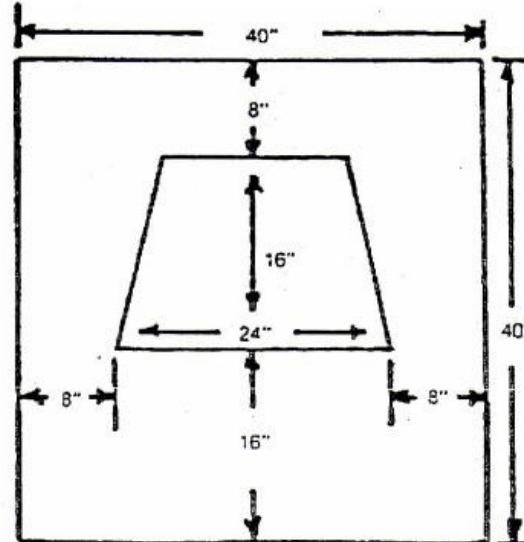
**MINIMUM CLEARANCES TO COMBUSTIBLES**  
Freestanding



Clearance to Combustibles without Jacket



Clearance to Combustibles with Jacket



Minimum Floor Protection

Figure 4

1. The chimney should have a fire clay liner in good condition. Loose or cracked liner sections can be hazardous. If the chimney does not have a liner, one can be installed by a qualified professional. Some metal liners are acceptable to use. Check with your stove dealer or local building code agency for acceptability of these liners.
2. No part of the chimney should have any leaks, missing masonry, cracks, loose mortar or soft mortar.
3. There should be no mortar or parts of chimney blocking the chimney flue.
4. There should be a minimum 2-inch clearance between any part of the fireplace or chimney and any combustible materials.
5. The fireplace and chimney should be built on a solid concrete footing supported by the ground and not attached to the house.
6. The chimney must have a good natural draft and should be self-starting. A chimney that has a poor draft and is subject to draft reversal should be repaired or replaced before using.
7. The chimney should be the proper size. Some fireplace chimneys are quite large and will cause poor stove performance and excessive creosote. The rule of thumb is that the chimney flue should be roughly no more than three times the flue opening on the stove. A 6-inch stove flue will work in a 8-inch by 12-inch fireplace flue. It may be necessary to install another liner in an oversized chimney.
8. The chimney should extend at least 3 feet above the roof and at least 2 feet above any point of the roof within 10 feet.
9. This stove must be used alone in the chimney. Any unused opening must be permanently sealed with masonry by a skilled brick mason. A clip-in type flue cover is not acceptable for this use because of the likelihood of it coming loose during a chimney fire and possibly spreading the fire.
10. The stove may be installed using a masonry relining system or metallic chimney or metallic relining system that meets or exceeds UL 1777.
11. The Cricket is approved for installation with Class "A" pipe.

Your local building Code agency or Fire Safety inspector can refer you to a qualified professional who can inspect your chimney for you.

**Remember to have your chimney inspected for leaks and blockage before you install your stove.**

**Installation into a masonry fireplace is very similar to installation into a factory-built fireplace.**

**CAUTION: Before using the Cricket, or any other woodstove with a 6" flue, it is critical to first determine if the chimney is lined and that the liner is neither too small or too large for the stove you wish to use. Either your SIERRA woodstove dealer or a qualified chimney sweep should first inspect your chimney.**

If your chimney is lined with a clay tile liner which is no smaller than 6" x 6" or larger than 8" x 12" inside measurements, you may install the Cricket in your fireplace.

The general accepted rule is the cross-sectional area of the chimney should be no more than three times the cross-sectional area of the flue exit of the stove. The cross-sectional area of a 6" flue or your Cricket is 28 sq. inches.

#### **Installation:**

Your stove must be directly connected to your chimney in one of the following 3 methods:

##### **1. Ceramic Wool**

- A. Remove or secure open the existing fireplace damper. Install a section of flexible pipe through the damper, up the chimney at least ½ the way up the first chimney liner. Oval or round pipe may be used, if oval pipe is used you will need to adapt it to the 6" flue collar of he stove.
- B. Pack the area around the pipe and the damper area or the chimney liner with ceramic wool. Make sure it is packed tight so no air can go between the pipe and chimney liner.
- C. Adjust the pipe to the approximate height of the flue collar on the stove.
- D. Slide the pipe down into the flue collar as far as possible.
- E. Slide the pipe down into the flue collar as far as possible. Secure te pipe to the flue collar with at least three metal screws.
- F. Make sure the ceramic wool is still in place and no heat from the stove can fo up the chimney.

##### **2. Positive Connect Kit**

You may want to obtain a "positive connect kit" from you dealer. They are made of metal and are designed to close off the entire upper part of your fireplace allowing only the stove pipe to exit up the chimney. Normally these kits are not offered to or intended for the do-it-yourselfer.

##### **3. Total Reline**

Total relining of your chimney may be required where the existing chimney is too large to draw properly or does not have a clay chimney liner. Total relining is normally beyond the expertise of the best do-it-yourselfer, and we urge you to have your dealer or a certified chimney sweep do it for you.

#### **III. FREESTANDING INSTALLATION**

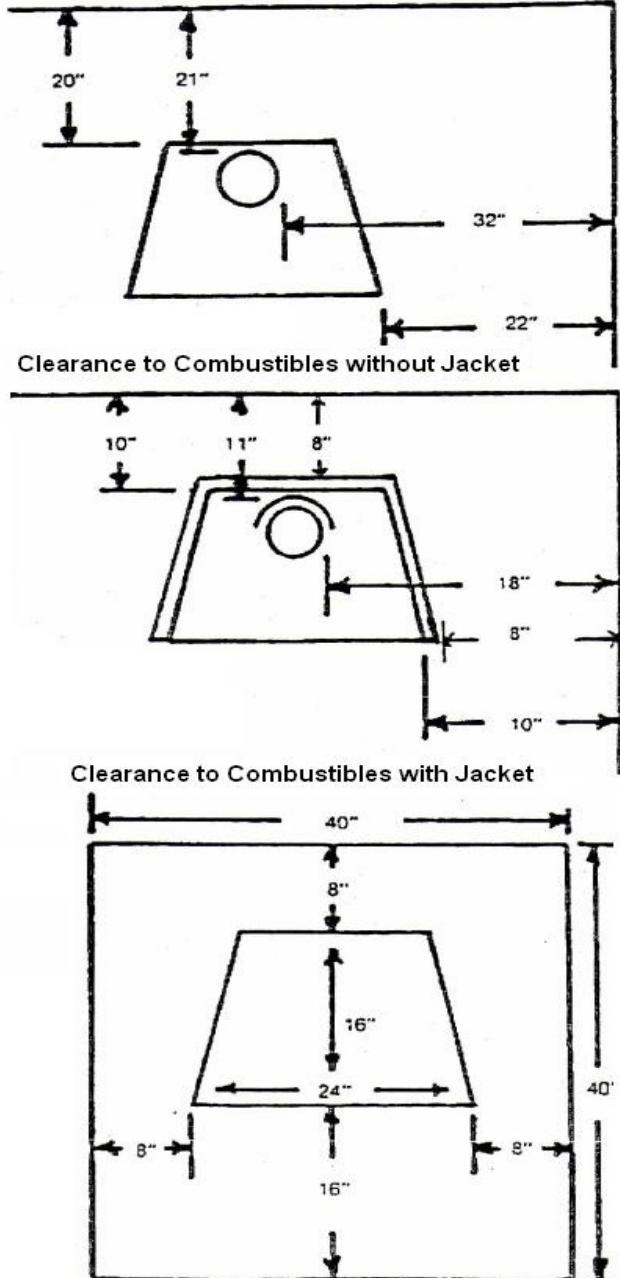
1. Remove the hardware package taped to the inside of the pedestal.
2. Position the Cricket on top of the pedestal.
3. Be sure that the holes in the brackets on the stove line up with the notched brackets on the insides of the pedestal.
4. Using the hardware provided (nuts, bolts, and washers), secure the stove to the pedestal by running the bolts through the stove bracket holes and installing washers and nuts.

**IT IS IMPORTANT THAT THE STOVE BE TIGHTLY BOLTED TO THE PEDESTAL.**

A freestanding installation must be installed with 6" x 24 gauge (minimum) stove pipe from the stove flue collar to the thimble of your chimney. The crimped end of each pipe should be toward the stove. On horizontal pipe it should be at least 1" higher where it enters the chimney than on the end toward the stove. Do not use more than (2) elbows and keep the length of the pipe to a minimum, but maintain the clearances to combustibles.

See Figure 4, 5, & 6.

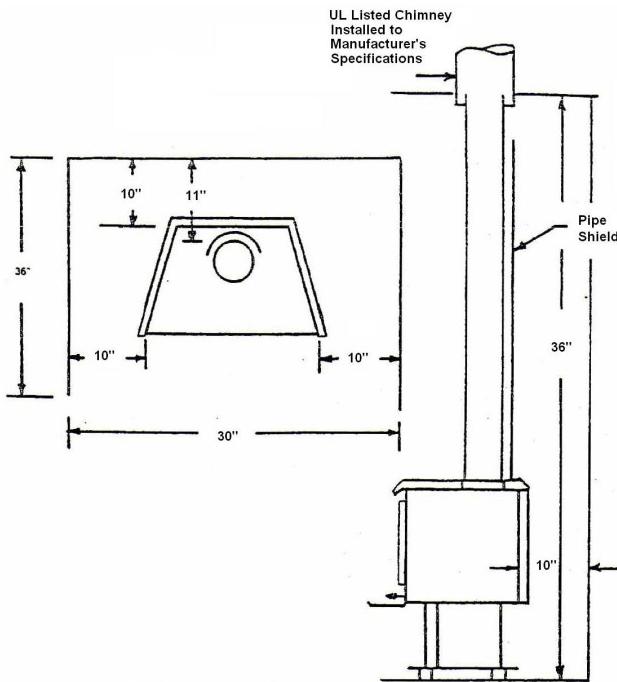
#### MINIMUM CLEARANCES TO COMBUSTIBLES Freestanding



Minimum Floor Protection

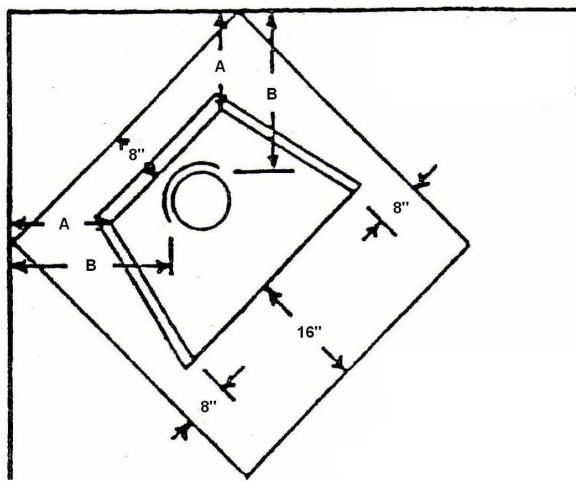
Figure 4

The Cricket may also be installed with a UL listed manufactured chimney. These normally attach to the flue collar of the stove and extend straight up through the ceiling and the roof. Make sure all the manufacturers specifications are followed closely, especially when passing through any combustible walls, ceilings, or roof. Normally, an installation using manufacturer's chimney is beyond the expertise of the do-it-yourselfer.



MODEL 5300 CRICKET  
ALCOVE INSTALLATION CLEARANCES  
with Jacket and Pipe Shield

Figure 5



MINIMUM CLEARANCES TO COMBUSTIBLES  
FOR A CORNER INSTALLATION  
for the  
MODEL 5300 CRICKET  
Figure 6

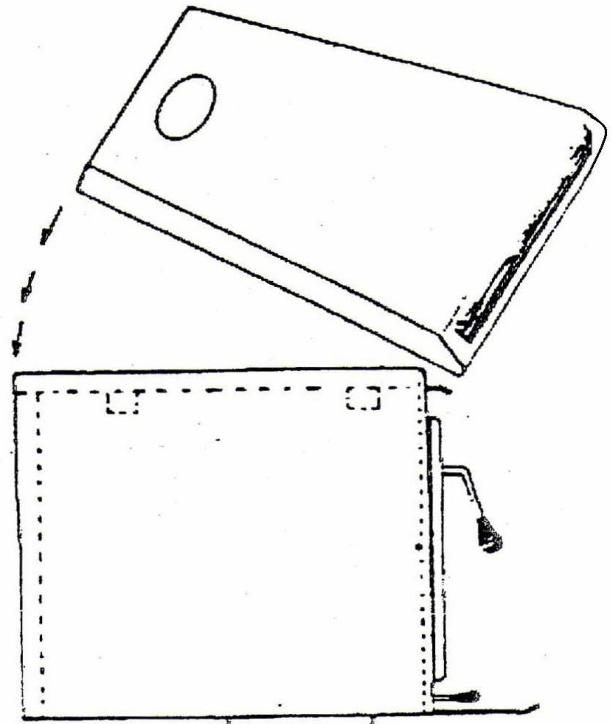
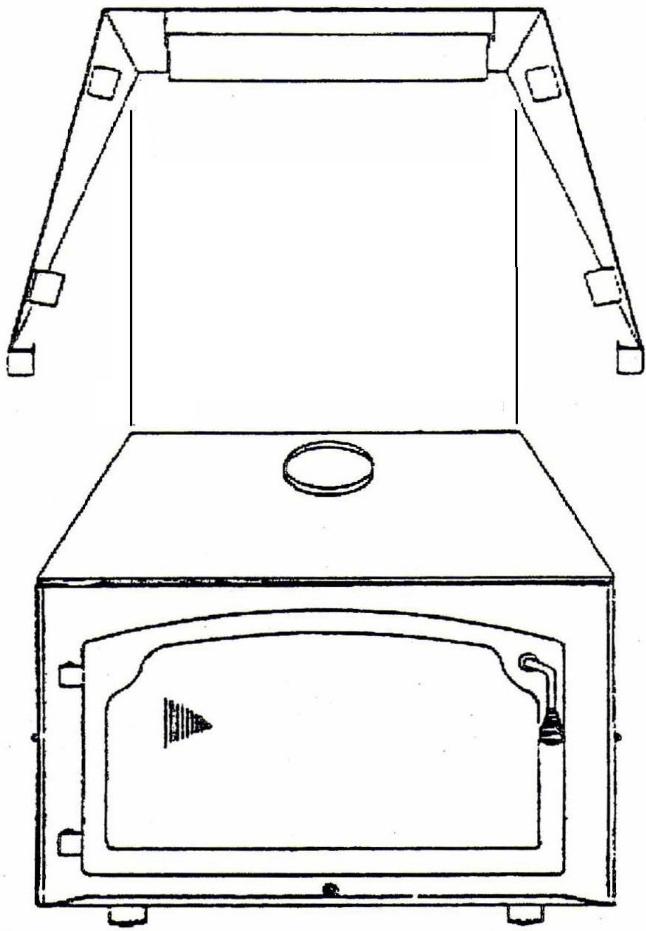
#### Jacket Installation:

An optional jacket is available for your Cricket which reduces clearances to combustibles to 8" from the sides and rear of the unit.

If you purchased this accessory, it attaches to the stove with the following steps: (See Figure 7)

1. Slide jacket over stove.
2. Bolt jacket on with one screw on either side of unit.
3. Hook top of jacket over lip at front of stove and lay lid back over top of stove.

# 5300 JACKET INSTALLATION



**Figure 7**

## Floor Protection

All woodstoves require floor protection when installed on a combustible surface. You must place use protector equivalent to 3/8' asbestos millboard covered with 24 gauge metal. The floor protector must extend 16" in front of the door side, 8" on each side and 8" in the rear of the unit and under the chimney connection and 2" beyond each side. See Figure 4.

The k, C or R factor that correlates with the floor protector material used during the test if the room heater is not provided with a floor protector. The units of measure for k, C and R factors shall use the same applicable units. Directions and examples on how to use alternate materials and how to calculate equivalent thickness shall be shown.

An easy means of determining if a proposed alternate floor protector meets requirements listed in the appliance manual is to follow this procedure:

1. Convert specifications to R-value
  - a. R-value is given - no conversion is needed.
  - b. K-factor is given with a required thickness (T) in inches:  $R=1/k+T$
  - c. C-factor is given:  $R=1/C$
2. Determine the R-value of the proposed alternate floor protector.
  - a. Use the formula in step 1 to convert values not expressed as "R".
  - b. For multiple layers, add R-values of each layer to determine the overall R-value.
3. If the overall R-value of the system is greater than the R-value of the specified floor protector, the alternate is acceptable.

### EXAMPLE:

The specified floor protector should be 3/4 inch thick material with a k-factor of .84.

The proposed alternate is 4" brick with a C-factor of 1.25 over 1/8" mineral board with a k-factor of .29.

Step 1: Use formula above to convert specification to R-value.  $R=1/kT = 1/0.84 \times 0.75 = 0.893$

Step 2: Calculate R of proposed system.

4" brick of C - 1.25, therefore

$$R \text{ brick} = 1/C = 1/1.25 = 0.80$$

1/8" mineral board of k+ 0.29, therefore

$$R \text{ min.bd.} = 1/0.29 \times 0.125 = 0.431$$

$$\text{Total } R = R \text{ brick} + R \text{ brick} + R \text{ mineral Board} \\ = 0.8 + 0.431 = 1.231$$

Step 3: Compare the proposed system R of 1.231 to specified R of 0.893. Since proposed system R is greater than required, this is acceptable.

Definitions:

$$\text{Thermal conductance} = C = \frac{\text{Btu}}{(\text{hr})(\text{ft}^2)(^\circ\text{F})} = \frac{\text{W}}{(\text{m}^2)(^\circ\text{K})}$$

$$\text{Thermal conductivity} = k = \frac{(\text{Btu})(\text{inch})}{(\text{hr})(\text{ft}^2)(^\circ\text{F})} = \frac{\text{W}}{(\text{m})(^\circ\text{K})} = \frac{\text{Btu}}{(\text{hr})(\text{ft})(^\circ\text{F})}$$

$$\text{Thermal resistance} = R = \frac{(\text{ft}^2)(\text{hr})(^\circ\text{F})}{\text{Btu}} = \frac{(\text{m}^2)(^\circ\text{K})}{\text{W}}$$

Note: Asbestos cannot be used. Asbestos is used as a standard only. 3/8 inch asbestos millboard has a "K" factor of 0.84. The newer substitute CERAFORM board has a "K" factor of 0.21. Your floor protector must have an equivalent or better "K" factor than the above recommendations.

The Cricket is a radiant heater - so most owners place in a frequently used area such as a family room. It is best to select a central location on the first level of the house where heated air can flow naturally by convection to the rest of the house, so you may want to install ceiling vents or use existing ones to heat upper rooms in a multi-level house. For large rooms with high ceilings, a ceiling fan switched to blow upwards can help distribute the heat evenly.

When you have selected the location for your stove, you must make sure that any combustible materials (i.e. walls, furniture, drapes, etc.) are not any closer than the laboratory approved clearances shown in Figure 4.

#### **NEVER USE A BLACK PIPE OR ANY OTHER CHIMNEY CONNECTOR TO PASS THROUGH A WALL.**

Do not install a stove in a closet or other small enclosure.

Do not use a flue designed for gas appliance, or "B" vent.

Always maintain the minimum clearances and minimum floor protection as shown in Figures 4 and 5. Review this information before deciding where to locate the stove and its chimney. NEVER place your stove closer to walls, drapes, or furniture than the distances shown in Figure 5.

#### **IV. MOBILE HOME INSTALLATION**

Your SIERRA 5300 is approved for installation into a mobile home, with the addition of the outside air adapter, Part no 405348. The outside air kit allows combustion air to be bought into the stove from outside of the house as opposed to taking air from the room.

For space heaters installed in mobile homes, attach the space heater to the structure. Install in accordance to 224 CFR, part 3280 (HUD)

The outside air adapter consists of a metal plate with a flange that is attached to the bottom of the stove with two screws. The homeowner or installer must attach a pipe (4" minimum) from this flange through the floor of the mobile home.

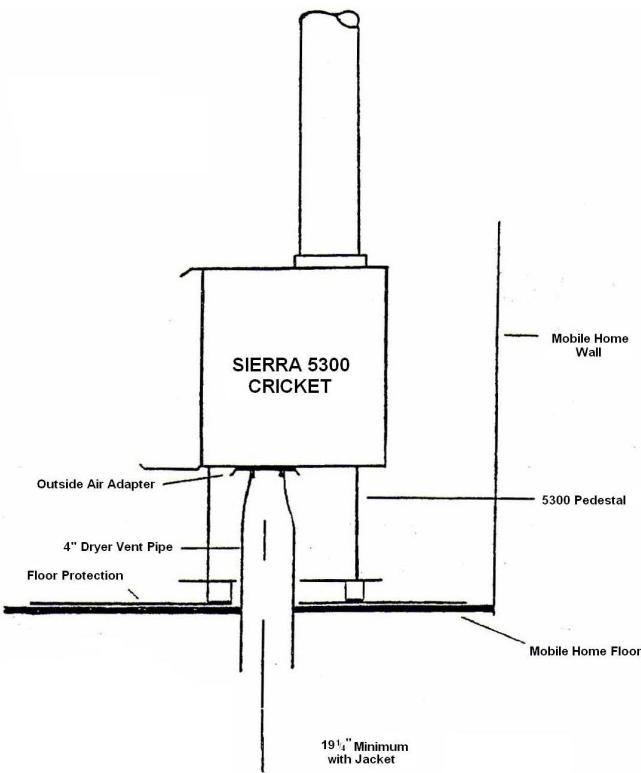
##### **Installation: (See Figure 8)**

1. Remove the two screws from the bottom of your stove.
2. Place an outside air adapter over the opening on the bottom of the stove ad attach with the screws removed in Step 1. Make sure the flange of the adapter is on the bottom.
3. The pipe (4" aluminum dryer vent pipe) must be connected to the flange, passed through the stove pedestal and through the floor.
4. Squeeze the end of the pipe to be attached to the outside air adapter to from an oval. Slide the formed end of the pipe over the flange o the adapter and secure with two metal screws in holes provided.
5. Make sure to add flashing to the pipe where it passes through the floor and screen over the pipe as a guard against birds, rodents, etc.
6. Make sure your stove is properly fastened to the floor on all four corners.

**NOTE:** For the first few days, the stove will give off an odor and a small amount of smoke. This happens when the high temperature paint is bonding to the metal. It is normal, will stop when the paint is cured, and will reoccur every time you repaint or touch up the paint on your stove.

1. Crumble three or four full sheets of newspaper and place them on the firebrick floor of your Sierra stove.
  2. Crisscross two layers of dry kindling on the paper. Add a few larger splits of dry wood on top of the kindling.
  3. Make sure the primary air control is fully open.
  4. Light the paper under the kindling with a match or lighter. Do not use gasoline, lighter fluid, charcoal starter, kerosene or any other such fuel to start a fire in a woodstove. You may use any type of woodstove fire starter. See your Sierra dealer.
  5. At higher altitudes, or when starting a fire on a very cold chimney, it may be necessary to leave the door cracked open to encourage a hot fire. **Never leave your stove unattended with the door unlatched! Never leave the door cracked more than 5-10 minutes.**
  6. When the kindling has been consumed and larger splits are burning well, load the stove to the level you desire, using dry, **WELL SEASONED DRY WOOD** ( wet wood does not heat well) **DO NOT BURN COAL IN THIS UNIT.**
  7. Once your chimney and stove are warmed up and drawing well, close the air inlets to the desired heat output. When the primary air control is set at 1/4", your unit will maintain approximately 7000 BTU output may be achieved for when the primary air is fully opened. Reload when convenient, but always while you still have a good bed of glowing embers.
  8. When opening the door to reload or poke the fire, crack the door and hesitate just a few seconds before swinging it open. All this is to prevent flashbacks which occur when a very smoky fire suddenly is given a lot of oxygen.
- Be sure your electrical cord is not routed in front of or close to the firebox.
- NOTE:** Every stove-chimney combination functions a little differently. Be patient, and expect the stove to be different in January when its cold outside, than it was in September when it was relatively warm. Once a chimney is warmed up, its draft is a function of how much warmer it is than the air around it. On still mild fall evenings, stoves can appear finicky and difficult, but the very next night, in the midst of a fall storm, act like a completely different stove.
9. Do not use a grate with your SIERRA stove. Build the fire directly on the firebrick. Whenever the ashes get one to two inches deep, remove them with a shovel and place them in a metal container with a tight-fitting lid. Assume that there are still hot coals mixed in them for at least three days. **DO NOT** place them with the garbage or in the garbage or near anything combustible. The best idea is to leave them outside, three feet away from the house, in a metal container, for three days. **ASK YOUR DEALER FOR THE SIERRA ASH HOD.**
- Fuel and ash door must remain closed when in operation. Fireplace stoves with doors should be operated with the doors fully open or fully closed.
- All fueling and ash removal doors must remain closed while stove is in operation.

#### **V. OPERATING INSTRUCTIONS**



## SIERRA 5300 MOBILE HOME INSTALLATION

Figure 8

### VI. STOVE AND CHIMNEY MAINTENANCE.

Creosote is one of the facts of life for wood burners. When wood is burned slowly, it produces tar and other organic vapor which combines with expelled moisture (even "dry" wood contains approximately 20% moisture) to form creosote. The creosote vapors condense in the relatively cool chimney connectors and flue of a slow-burning fire. As a result, creosote residue accumulates on the flue lining. Large amounts of this tough, gummy, tar-like substance can pile up quickly and virtually choke a stove pipe. When ignited, this creosote makes an extremely hot and dangerous fire.

Be sure to examine the chimney connector pipe and the chimney above it every few weeks so you can determine the rate of creosote build up.

**Any excessive build up of creosote (more than 1/4") will then be apparent and must be removed for continued safe operation.**

The chimney must be inspected from the top of the chimney. For a thorough cleaning and inspection, your SIERRA woodstove should be removed from the hearth.

If creosote has accumulated, it should be removed to reduce the risk of a chimney fire. Creosote formations can be chipped away from flue openings with a sturdy metal blade such as a heavy duty scraper.

**CAUTION: The acid content can cause burns to skin and eyes, so wear protective glasses and gloves.**

The chimney itself is normally cleaned from the roof. Most stove dealers carry stiff metal brushes in sized and shapes to fit standard flue liners. These are usually attached to rods which can be extended for the length of the chimney. It is recommended that you call a professional chimney cleaner to do the job for you.

Provisions for outside combustion air may be necessary to ensure that fuel burning appliances do no discharge products of combustion into the house. Guidelines to determine the need for additional combustion air may not be adequate for every situation. If in doubt, it is advisable to provide additional air.

a. Outside combustion air may be required if:

1. The solid fuel fired appliance does not draw steadily, smoke rollout occurs, fuel burns poorly, or back-drafts occur whether or not there is combustion present.
  2. Existing fuel fired equipment in the house, such as fireplaces or other heating appliances smell, do not operate properly, suffer smoke roll-out when opened, or back-draft whether or not there is combustion present.
  3. Opening a window slightly on a calm (windless) day alleviates any of the above symptoms.
  4. The house is equipped with a well sealed vapor barrier and tight fitting windows and/or has any powered devices that exhaust house air.
  5. There is excessive condensation on windows in winter.
  6. A ventilation system is installed in the house.
- b. If these or other indications suggest that infiltration air is inadequate, additional combustion air should be provided from the outdoors. Outside combustion air can be provided to the appliance by the following means.
1. Direct connection: appliances can only use direct connection of outside combustion air if they are certified for the type of installation. Installations shall comply with the manufacturer's instructions.
  2. Indirect method: for an appliance not certified for direct connection of outside combustion air, the outside air is ducted to a point no closer than (12 in) 300 mm from the appliance, to avoid affecting the performance of the appliance.
  3. A mechanical ventilation system: if the house has a ventilation system (air change or heat recovery):
    - a. The ventilation system may be able to provide sufficient combustion make-up air for the solid fuel fired appliance.
    - b. The householder should be informed that the ventilation system might need to be re-balanced by a ventilation technician after installation of the appliance.

#### Minimizing Creosote

1. Proper sizing of the stove to the house will help reduce creosote problems - too large a stove will force the owner to burn a slow fire resulting in rapid creosote build-up. It is recommended that you do not burn slow fires for an extended period of time.
2. Avoid slow smoldering fires. A better way to reduce heat output is to have a small but hot fire by adding small amounts of wood at more frequent intervals.
3. Regularly, when loading the stove, encourage a hot, brisk fire for 10-15 minutes. This will tend to "burn-off" any small accumulations of creosote since the last hot fire.
4. If you do have a chimney fire, call the fire department immediately. Only then attempt to control the fire. Throw soda on the logs, close the draft regulators completely to shut off air to the fire. Wet down your roof and adjacent areas to keep the fire from spreading.
5. If you must use green wood (and we urge you to avoid doing so), be sure to mix with dry logs.

Care and cleaning of woodstove Glass - The window glass on your Sierra woodstove is designed for high temperature

performance and will withstand normal woodstove temperatures. However, like most glass, it will break if struck with sufficient force, so be careful when loading wood. You can break your glass by jamming a log against it or by attempting to push a log into the fire with the stove door. Never load your Sierra stove with combustible materials. Even the smallest explosions in a small airtight stove may blow out the glass.

Inspect the glass regularly for cracks or breaks. If you find one, obtain a new glass from your dealer or SIERRA.

Always use the fiberglass window gasket supplied with the replacement glass.

## **CONSUMER PROTECTION WARRANTY**

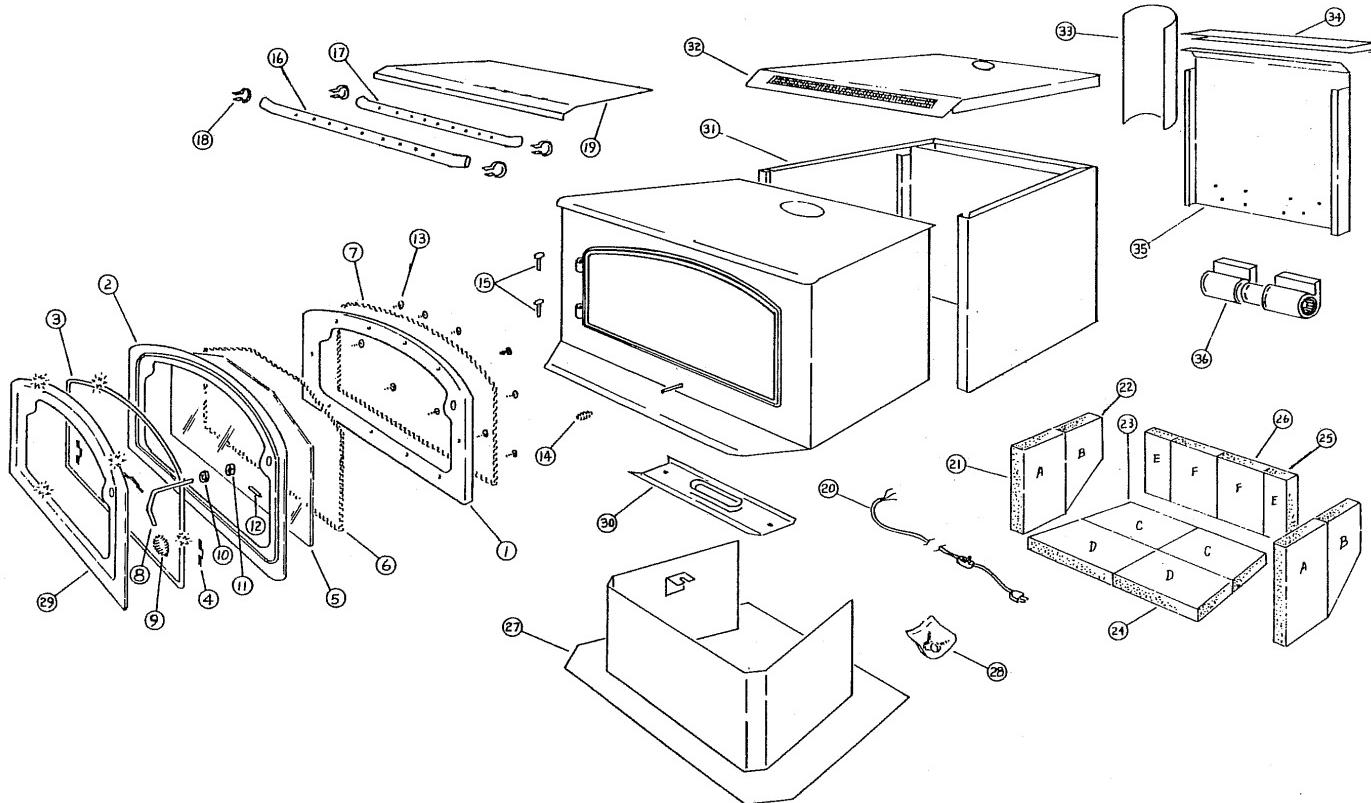
Your Sierra Stove has a Limited Five-Year Warranty.  
Please read it carefully, fill out the short registration form  
and return it, within 30 days of purchase, to  
Sierra Products, Inc., 5061 Brooks St. Ste. B  
Montclair, CA 91763.

**Keep a Hotter Fire for Cleaner Glass** - Here are nine hints for keeping your window glass as clean as possible.

1. A hotter fire near the window keeps it clean (don't expect any stove window to stay perfectly clean)
  2. Add a log or two frequently, avoid a smoldering fire.
  3. Move burning logs to window area, add new logs behind.
  4. Encourage a hot burn when adding logs.
  5. Use dryer wood - green wood stains glass.
  6. To clean window when dirty, burn a hot fire.
  7. Or use a damp rag to wipe window, but be sure to avoid a steam burn.
  8. Keep air intakes clean for a good wash of air.
  9. Stir ashes as little as possible.

**By following the manufacturer's recommendations your Sierra Stove will give you years of service**

ITEM NO.	PART NO.	DESCRIPTION	ITEM NO.	PART NO.	DESCRIPTION	ITEM NO.	PART NO.	DESCRIPTION	ITEM NO.	PART NO.	DESCRIPTION
1	—	SINGLEARCH DOOR - CAST	13	—	DOOR SCREWS	25	E	FIRE BRICK- 1/4 X 2 1/4 X 5 1/4	34	405372	MINI-INSERT HEAT SHIELD ASSY
2	—	SINGLEARCH DOOR OVERLAY-CAST	14	404563	SPRING HANDLE-PRIMARY AIR	26	F	FIRE BRICK- 1/4 X 4 1/2 X 5 1/4	35	405373	BLOWER MANIFOLD
3	—	DOOR INLAY TRIM-BRASS FINISH	15	—	HINGE PINS	36	405374	BLDWER			
4	—	SPRING CLIPS	16	405360	FRONT SECONDARY AIR TUBE	37	405215	BLOWER MANIFOLD ASSY(NOT SHOWN INCLUDES ITEMS 20, 35 & 36)			
5	400064	ARCH DOOR GLASS	17	405361	REAR SECONDARY AIR TUBE	27	405265	OPTIONS			
6	405370	ARCH DOOR GLASS GASKET	18	405331	COLLARS FOR SECONDARY AIR TUBES	28	—	PEDESTAL SUB-ASSEMBLY			
7	405371	ARCH DOOR GASKET	19	405315	HEAT REFLECTOR BAFFLE	29	—	PEDESTAL HARDWARE KIT			
8	405336	DOOR HANDLE	20	405373	POWER CORD -WITH SWITCH	30	405349	GOLD PLATED DOOR OVER LAY			
9	404543	SPRING DOOR HANDLE	21	A	FIRE BRICK- 1/4 X 6 X 9	31	405320	OUTSIDE AIR ADAPTOR ASSY			
10	405368	HANDLE RETAINING COLLAR	22	B	FIRE BRICK- 1/4 X 3 1/4 X 9	32	405321	JACKET BACK AND SIDES			
11	405369	PIN SUPPORT COLLAR	23	C	FIRE BRICK- 1/4 X 4 1/2 X 7	33	405346	JACKET TOP			
12	405367	PIN - DOOR HANDLE	24	D	FIRE BRICK - 1/4 X 4 1/2 X 8			BLOWER HEAT SHIELD ASSY			



Sierra Products, Inc.  
5061 Brooks St., Ste B  
Montclair, CA 91763  
(909) 399-3355

P/N 140822 CRICKET MODEL 5300 MANUAL r1